



HISTORICALLY BLACK COLLEGES AND UNIVERSITIES

NASA TECHNOLOGY INFUSION
ROAD TOUR



AND MINORITY-SERVING INSTITUTIONS

**Johnson C.
Smith University**

Dr. Diane Bowles

Vice President for Government Sponsored Programs and
Research



Office of
Small Business
Mentor-Protégé Program

Johnson C. Smith University: A Legacy of Empowerment and Excellence

Founded

Founded April 7, 1867, as Biddle Memorial Institute under the Committee on Freedmen of the Presbyterian Church, USA - Became Biddle University in 1876

Mission

The mission of Johnson C. Smith University is to provide an outstanding education for a diverse group of talented and highly motivated students from various ethnic, socioeconomic, and geographic backgrounds.

Vision

Johnson C. Smith University will be recognized in North Carolina as Charlotte's Premier Independent New Urban University.

Strategy

Johnson C. Smith University is committed to building a strong and sustainable new urban university that has a reputation as a close-knit community that integrates the liberal arts with business, the sciences, and technology in innovative, socially-conscious ways to empower tomorrow's diverse entrepreneurial citizens and leaders.

Accreditation, Curriculum, and Programs

- Accredited by SACS, CSWE
- Progressive curriculum with 25 fields of study including a master's of social work
- Six market-driven STEM centers
 - The Center of Automation and Robotics
 - The Center of Electronics and Cyber Security
 - The Center of Bioinformatics and Biotechnology
 - The Center of Medical Informatics
 - The Center of Analytics and Big Data
 - The Center of Renewable Energy & Sustainability

Bachelor's Degree Level Programs (Selected):

- Biology, Chemistry, General Science, and Mathematics
- Computer Science/Engineering
- Science Education
- Sociology
- Psychology

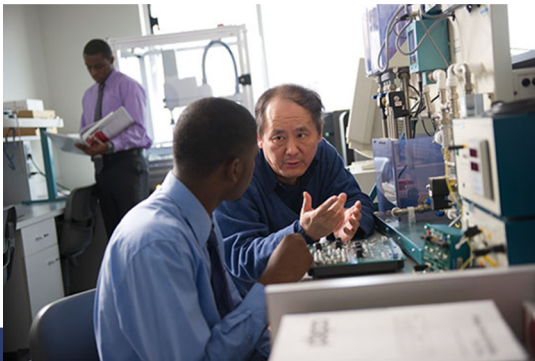
Research Capabilities

Computer Science and Engineering/Mathematics:

- Computer Networking
- Cybersecurity
- Automatic Control & Robotics (Fuzzy Logic Control)
- Digital Signal Processing
- Database & Business Applications
- Analytics & Big Data
- Medical Informatics
- Coastal Resilience
- K-12 Math Education

Chemistry:

- Electrochemistry
 - A wide range of analytical (cyclic voltammetry, stripping analysis, etc.), physical electrochemistry, battery/fuel cell and corrosion research, including electrochemical impedance spectroscopy (EIS.)
- Nanotechnology (nanomaterials and polymeric materials)
 - Antimicrobial Properties of Cellulose NanoFibers; Silver-cellulose nanocomposites gels and films; In Situ Polymerization of Polypyrrole (PPy)
- Waste Water Treatment



Research Capabilities

Health Disparities:

- Breast Cancer Prevention
- Preconception
- Community Health (obesity, diabetes, cancer, HIV, hepatitis and substance abuse)
- Sports Health and Performance (management of concussions)

Biology:

- Drug (antibiotic) Resistance
- Parasitology
- Malaria Mosquito



Research Capabilities

Environmental Science:

- Environmental Sustainability (water quality, air quality and food issues)
- Renewable Energy (Solar and Wind Energy)
- Farming



Library Information Science:

- Digital Mapping
- Digital Archiving



Past Performance Highlights

- Electrochemistry: investigated the chemical surface modifications and characterization of novel conductive polymers. The research findings are of interests to the industries of batteries and the research fields of electrodeposition, corrosion and chemical and biological sensing. *(PI: Dr. M. Todd Coolbaugh, DOD funded, Award # W911NF-14-1-0464)*
- The Center of Homeland Security (Cybersecurity): Collaborating with Jackson State University and Mecklenburg County GIS service in Charlotte, NC, emergency management related applications were developed by utilizing ARCGIS software. *(PI: Dr. Hang Chen)*
- Math education: Project “IMPACT: Improving Mathematic Persistence and Achievement through Community partnerships and Transformative teaching” provided a platform for Charlotte-Mecklenburg School district and the University to develop a comprehensive approach to the college and career-readiness standards with STEM industry professionals. *(PI: Dr. Dawn McNair, Award Requisition # 804893)*
- An Informal STEM Learning Model: Genetics, Genomics, and Adult Latino Immigrants – Collaborating with Wake Forest School of Medicine to engage in data analysis using qualitative software (ATLAS.ti). *(PI: Dr. Dakysha Moore, Subaward # WFUHS 112981)*

Selected Past Performance Funders

- Department of Defense (DoD)
- National Science Foundation (NSF)
- Department of Education (DoEd)
- Department of Health and Human Services (DHHS)
- Department of Justice (DoJ)
- Department of State (DoS)
- Institute of Museum and Library Services (IMLS)
- National Endowment for the Humanities (NEH)
- City of Charlotte
- Mecklenburg County
- State of North Carolina



University Points of Contact

Dr. Diane Bowles

*Vice President for
Government Sponsored
Programs and Research*

dbowles@jcsu.edu

704-378-1202



Dr. Hang Chen

Dean of STEM College

hchen@jcsu.edu

704-378-1049

